When and Why to Deploy New Workloads to System z

Yvonne Perkins
Vice President
Enterprise Platform Software

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Key Takeaways

- Alignment of IT to Business drives Smart SOA adoption
- Criticality of business services creates distinctions between deployment platforms
  - All services differ in priority and impact to the organization
  - All servers provide graduated levels of service that must be matched with the requirements of the business processes.
- Enhancements to the WebSphere portfolio enable platform choice based on the customer's business drivers
- System z adopters have put SOA into operation and are demonstrating business results with Smart SOA Entry Points
  - Over 1500 System z customers deploying SOA
  - WebSphere Application Server dominates System z market share
  - Fastest migration rate between CICS releases ever
- IBM continues to add skills to the Smart SOA z community

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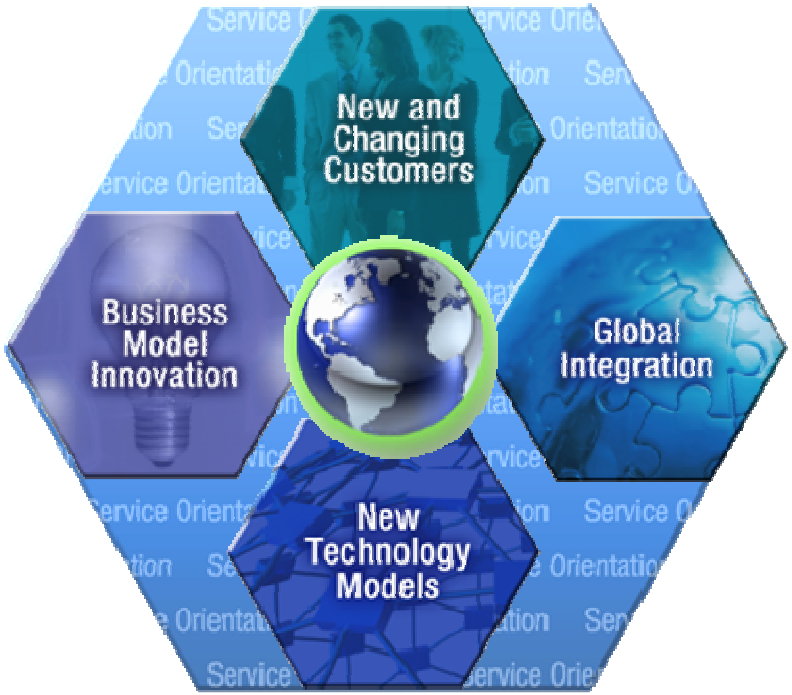
The Business Landscape is Changing

Forcing Companies of All Sizes to Respond to a 'Flat World'

Innovation that matters to CEOs:

- Extend the ability to collaborate inside & outside
- Innovate business models & processes
- Leverage information for business optimization
- Integrate globally
- Agile business processes



87% expect fundamental change in next 2 years
78% believe innovation requires business and technology

"The scale and pace [of global economic integration] is unprecedented … the greater part of the earth's population is now engaged."

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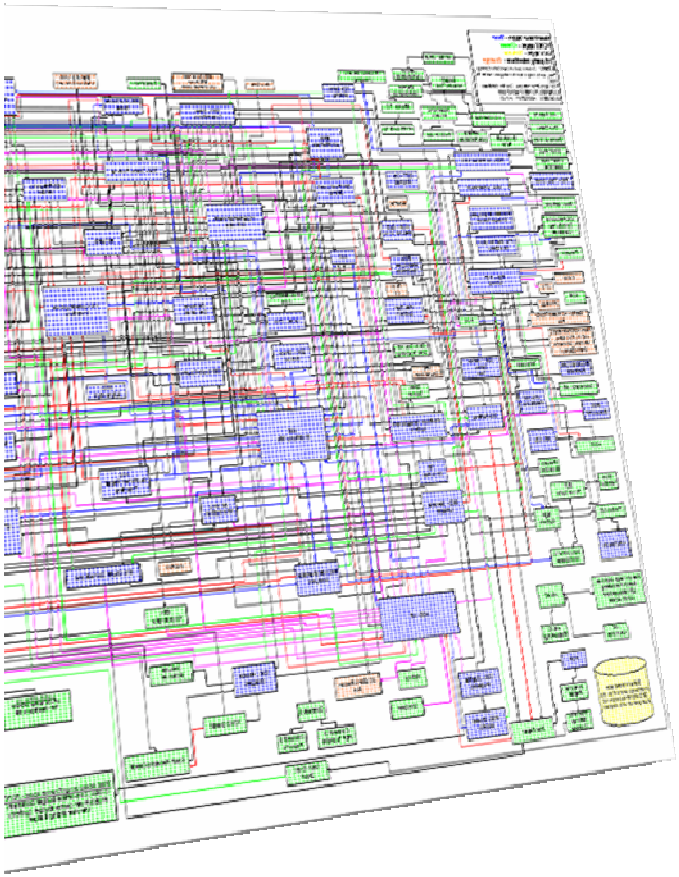
Why SOA?

Customers want to improve this....



Why?

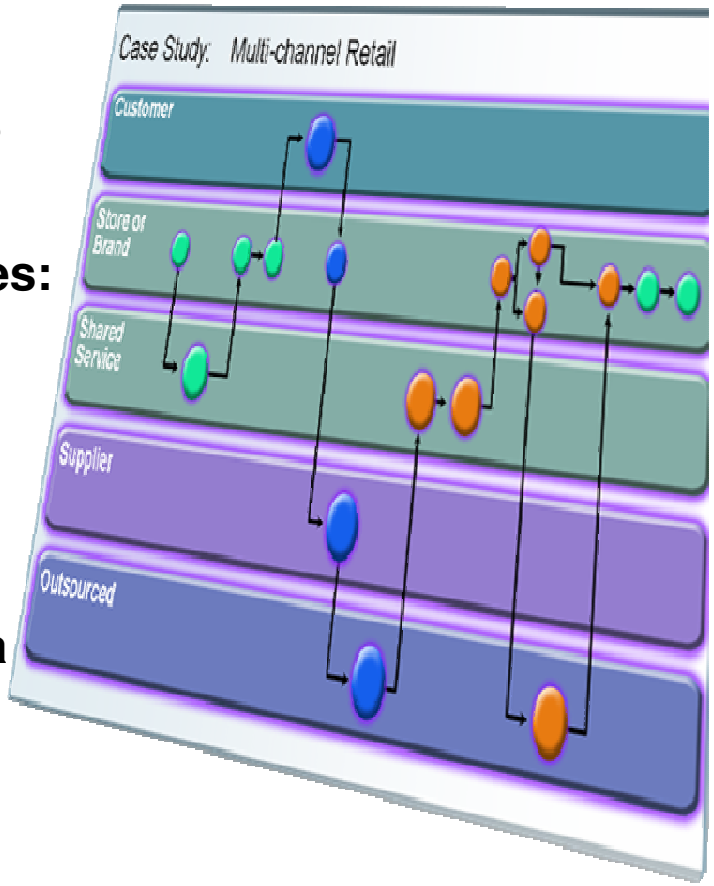
Economics:
Globalization demands flexibility

- **Business processes:** Change quickly
- **Information:** Greater availability

Growth:
Top of the CEO agenda

Reduce costs:
Reuse existing assets

... to run their business like this.



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Deploying on System z provides differentiated value

Enabling intelligent IT that works for your business

Server Leadership: 40+ years in the making!

Mainframe utilization rates often exceed 80%, and are designed to handle sustained peak workload utilization of 100% without service level degradation.

- Application and data availability for business resiliency
- Rock solid security and privacy
- Massive scalability for non-disruptive growth
- Higher utilization and balanced system design
- Advanced virtualization
- Responsive, autonomic and intelligent workload management
- Open and industry standards
- Modernization of legacy applications
- Specialty engines lower cost of ownership
- World-class support

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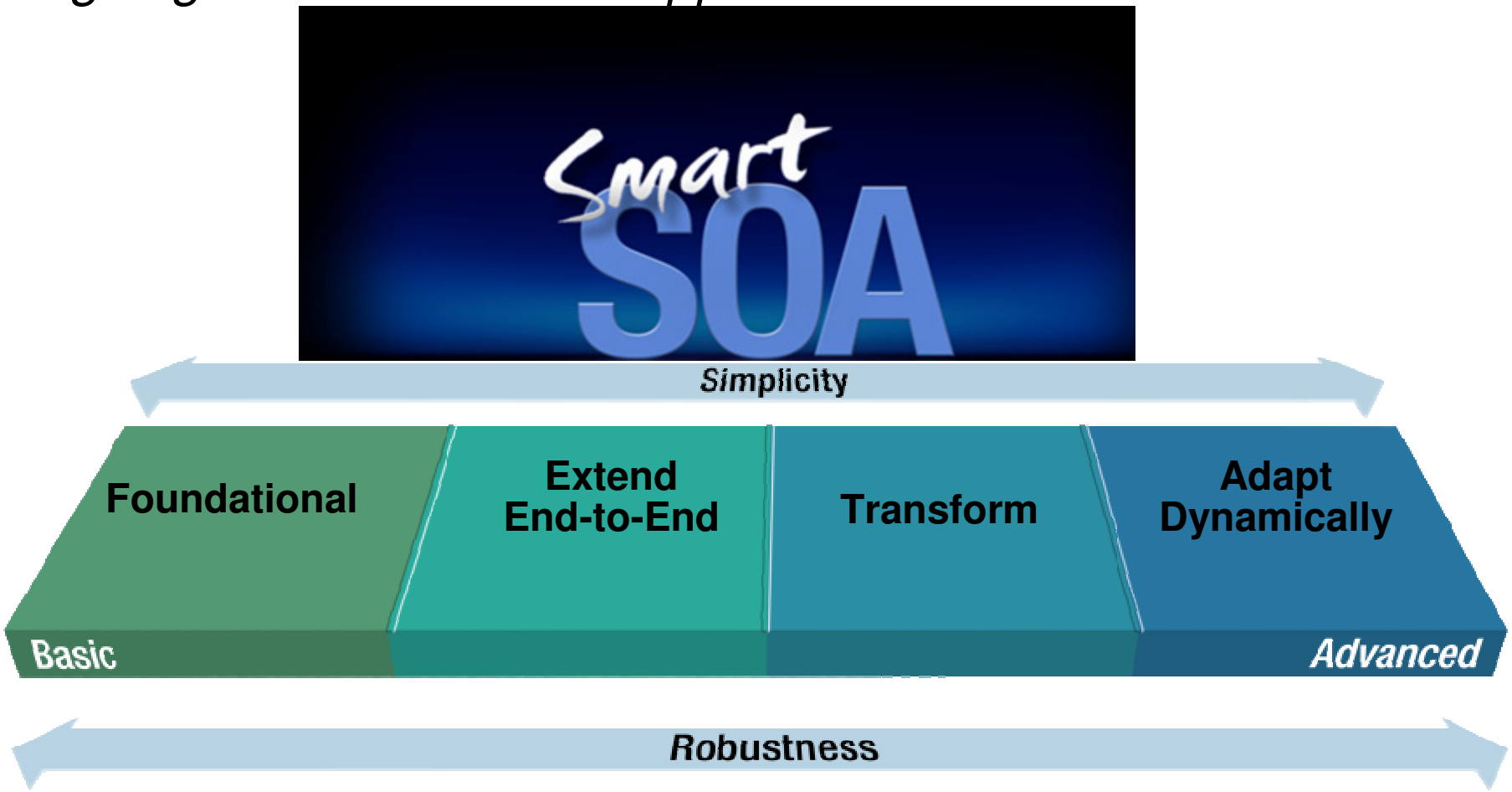
There is a Smarter Way!

Aligning Service Oriented Approaches



Smart SOA Delivers Value to Both Business and IT

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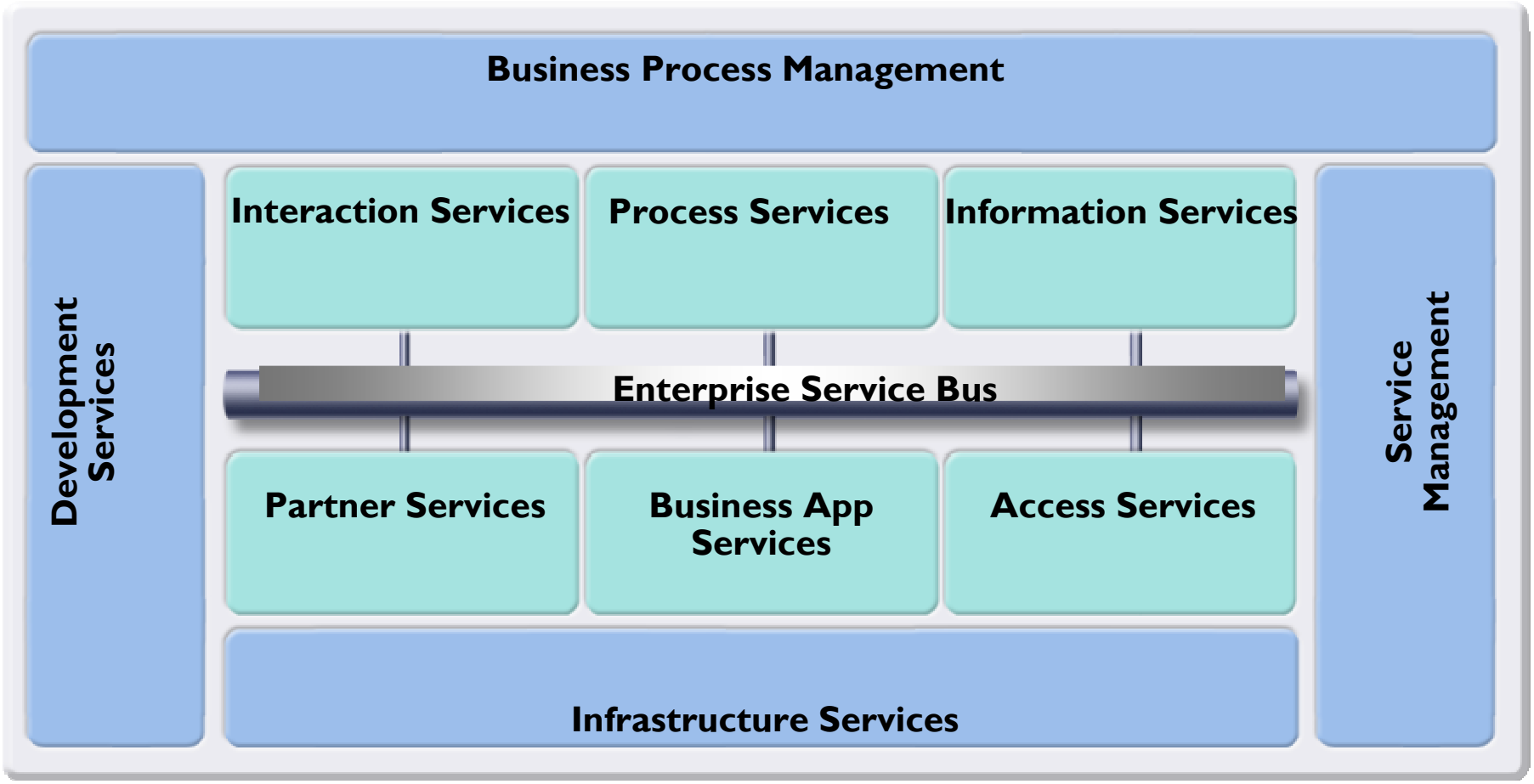
SOA Reference Architecture

The enabling foundation for our product strategy



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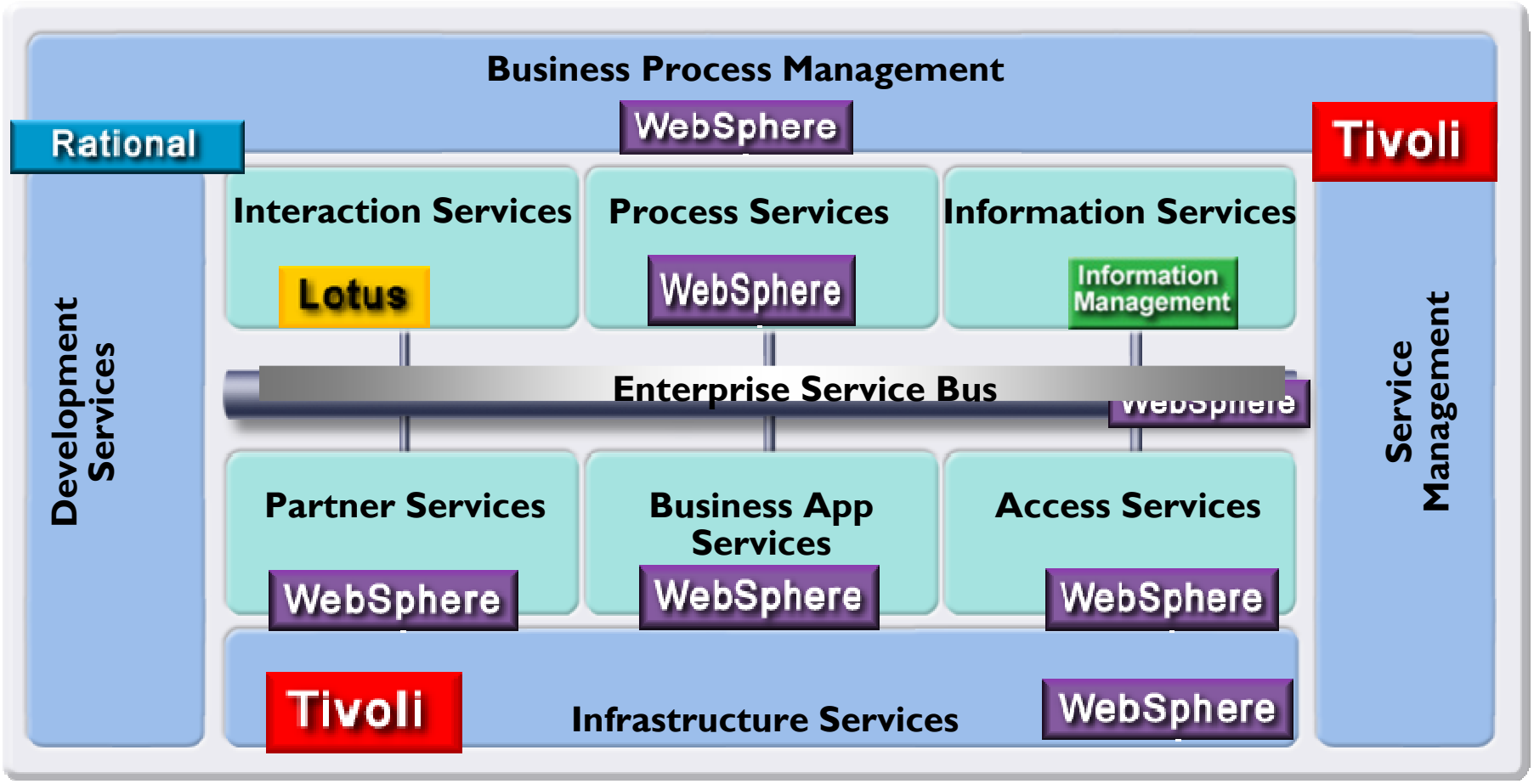
SOA Reference Architecture

With WebSphere at the core of our strategy



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Re-Thinking the Role of the Mainframe….

What do clients require in an on-demand, 24x7, always-on world?

- **Highly virtualized and energy efficient**
  – driving out cost and complexity
- **Comprehensive security and resiliency**
  – minimizing risk and downtime
- **Centralized corporate data serving**
  – a platform for business analytics
- **A foundation for SOA**
  – IT that responds to the business
- **An ecosystem that is flourishing**
  – ISVs and academic initiatives

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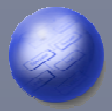
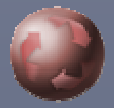
Customer Success via SOA Entry Points

Distinct but interrelated projects with proven value

	What is it?	System z Value
People	Productivity and efficiency through SOA	▪ Faster time to market ▪ More responsive to customers
 Process	Achieve business process innovation through treating tasks as modular services	▪ Application delivery time and costs cut through process automation ▪ Document and streamline existing z processes
Information	Information as a service when you need it, where you need it	▪ Unified view of enterprise-wide data ▪ Integration costs as little as 1/5 of industry average
 Reuse	Service-enable existing assets and fill portfolio gaps with new reusable services	▪ Utilize decades of IT investment ▪ Capture existing “business rules” ▪ Dramatically reduce time to market
Connectivity	Secure, reliable universal connections between applications and services	▪ Reduced CPU usage ▪ Improvement in response times – no network latency

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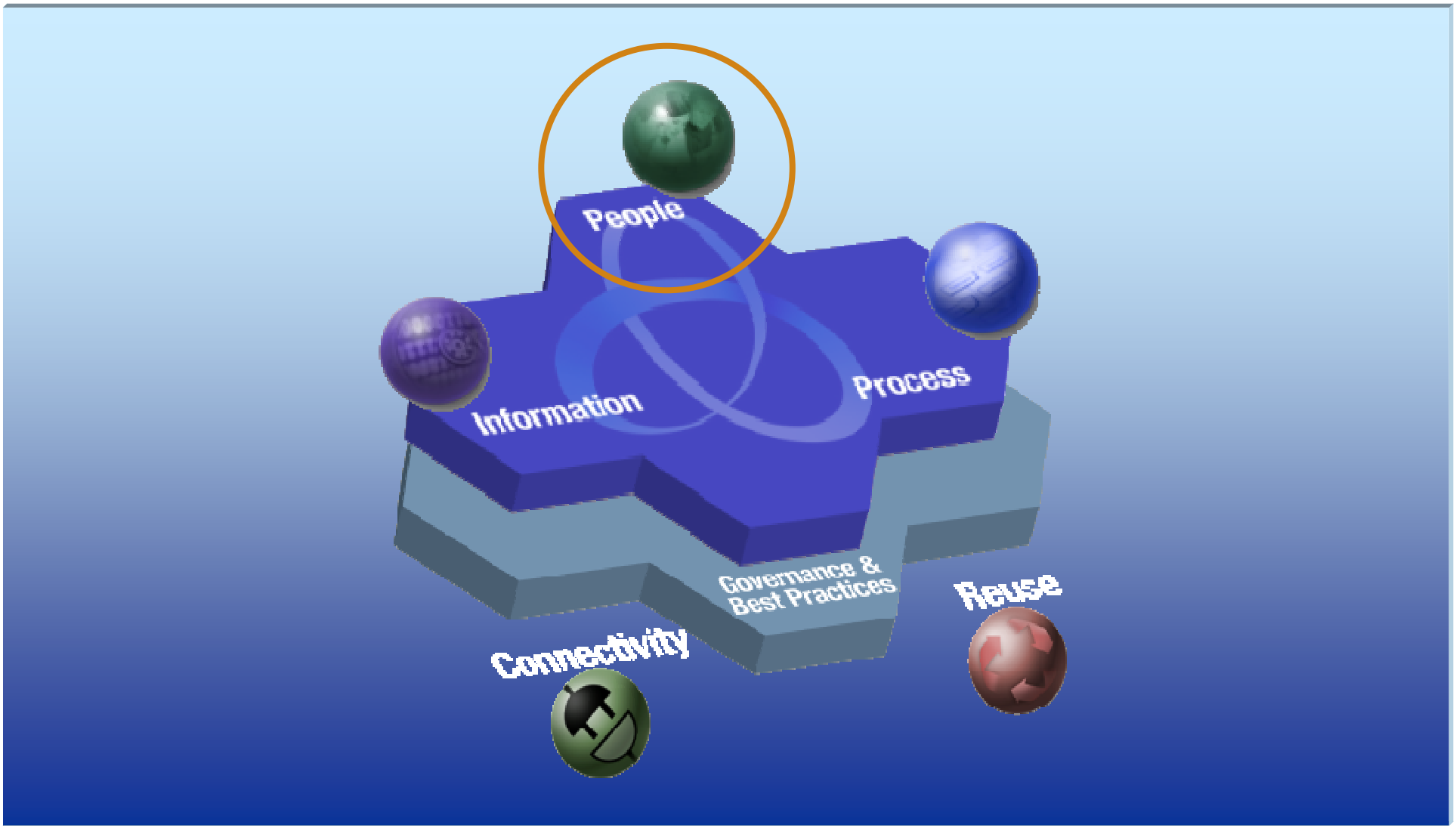
SOA Entry Points: People



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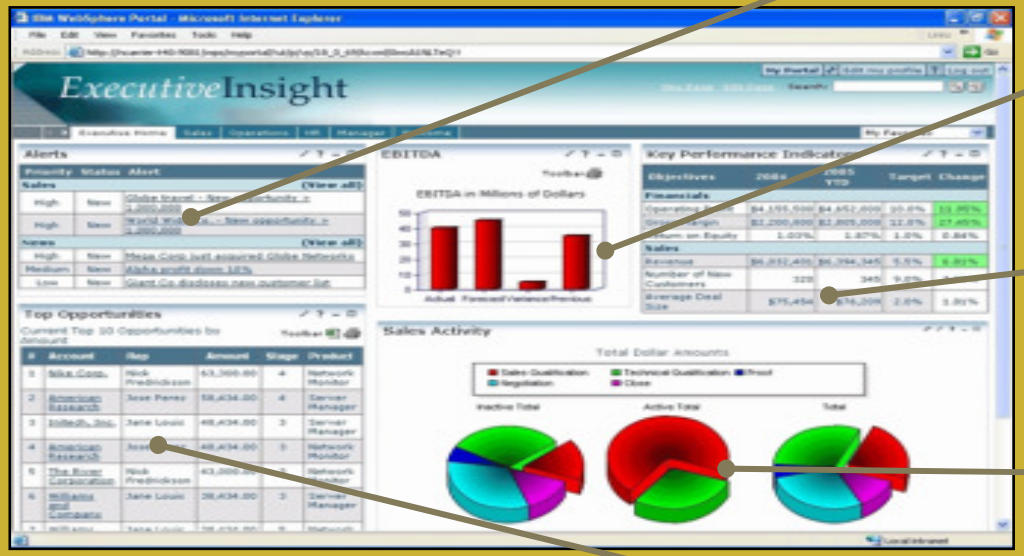
Why WebSphere Portal on System z for SOA?

Web 2.0-based Composite applications

Enable rapid assembly of situational applications with WebSphere Portal

Enhanced!

Composite application framework



External feeds and services

Business Partner / supplier information

Ad hoc as needed Google Gadget

Business intelligence

Long-lived corporate IT applications

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Case Study: WebSphere Portal Makes the Grade
Saskatchewan Wheat Pool

Business Challenge:
Existing application was not meeting the needs of customers, employees, and producers for delivering timely information. Their 24% of the Canadian Prairie Provinces' wheat market meant they needed to find a reliable and responsive solution.

Solution: Provide customers and partners access to real-time information on the Web

Results: High customer satisfaction; Greater employee satisfaction; Framework for implementing new services; Web-based access to its application environment; Expandable portal infrastructure

Implementation Details: WebSphere Portal Enable, Tivoli Access Manager for e-business, Tivoli Identity Manager, WebSphere Application Server Network Deployment on zLinux, IBM eServer System z9

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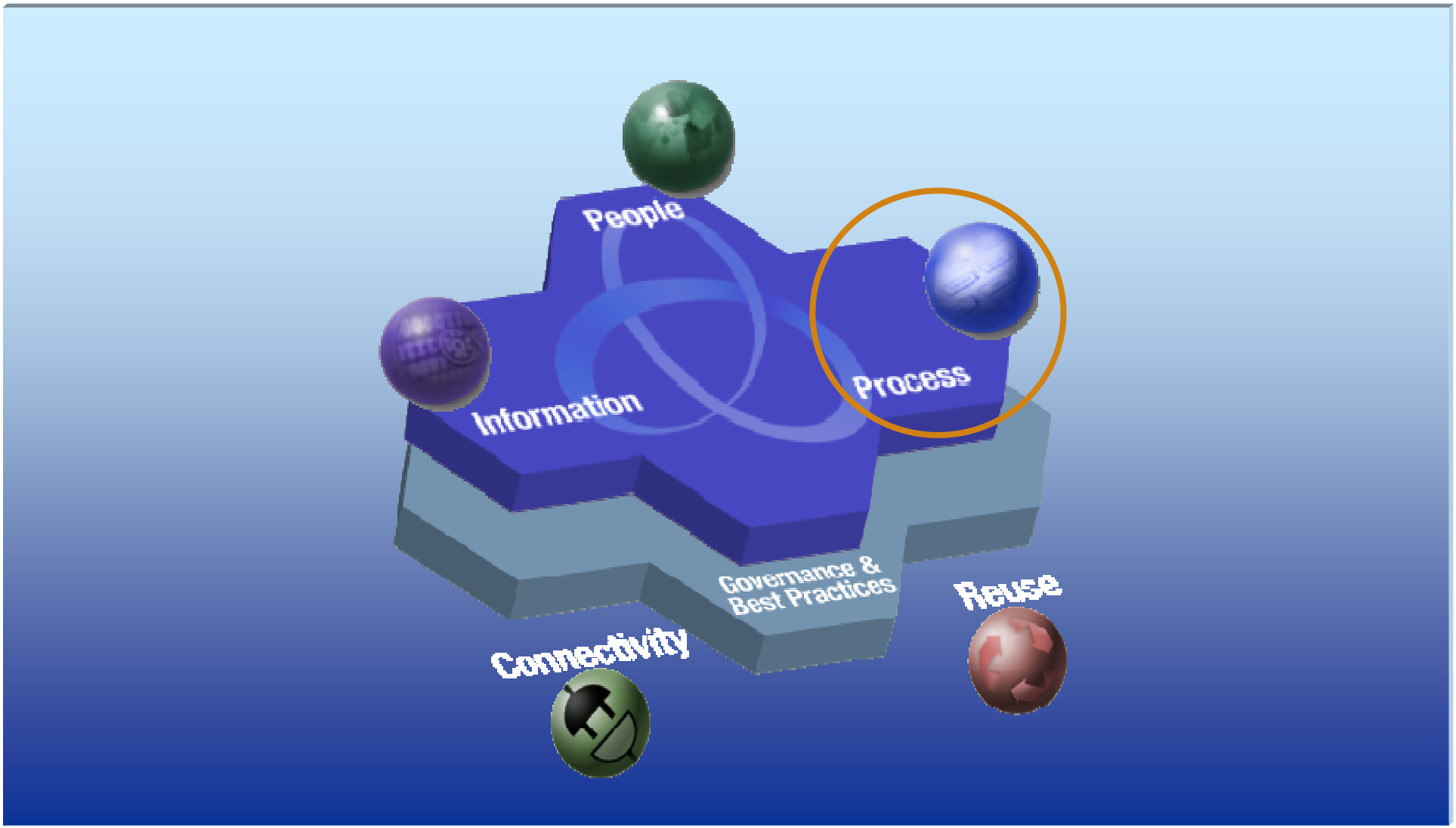
SOA Entry Points: Process



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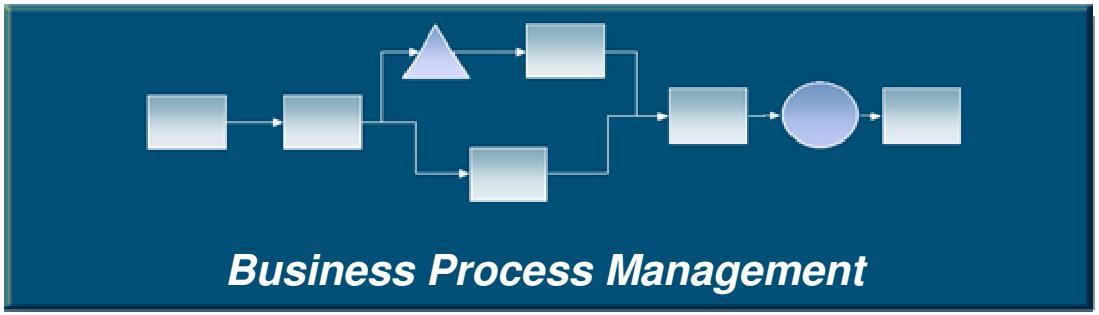
Customers can start BPM in different ways



Modeling & Simulation

Design and simulate business processes

Business Activity Monitoring

Track performance, processes and operational activity using key performance indicators

Process Choreography

Choreograph processes across applications and systems

Rules and Pre-built Frameworks

Manage process rules and accelerate design and implementation time

Content Centric Processing

Manage processes where content is used as input for a decision or produced as the output

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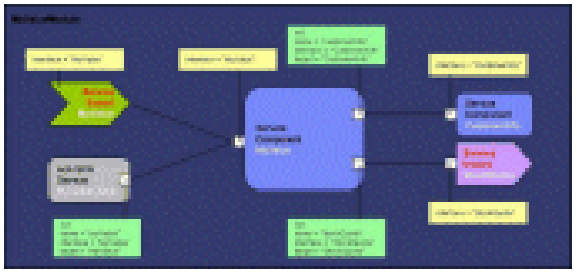
SOA Process: BPM Enabled by SOA

Achieve business process innovation through treating tasks as modular services



Enhanced!

WebSphere Integration Developer for z/OS 6.1

Simplified integration and enhanced productivity

- Improved adapter experience,
- Reduced build time and memory footprint
- Enhanced human workflow support
- Drag-and-drop tools for visually constructing solutions

Enhanced!

WebSphere Process Server for z/OS 6.1

Achieve even greater flexibility and deployment choice

- Leverage WAS v6.1 to help improve time to value
- Improved installation and administration
- Greater flexibility in controlling the flow of the business processes

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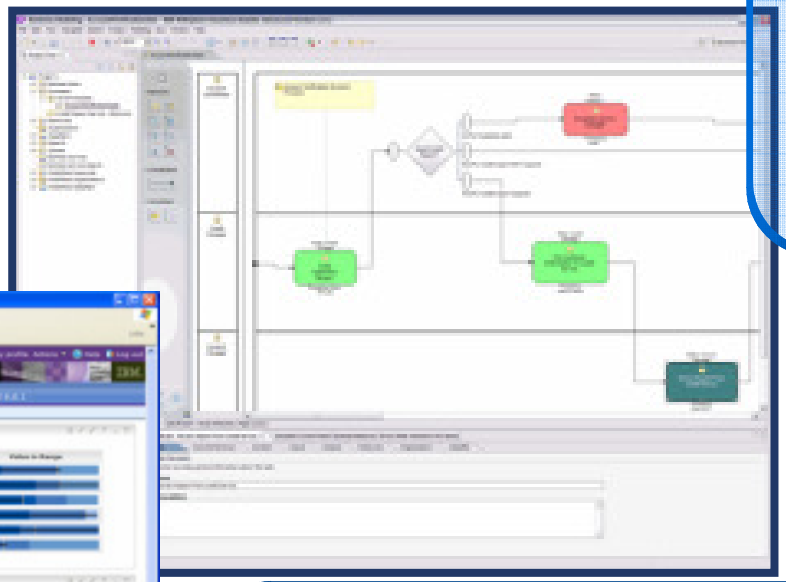
SOA Process: BPM Enabled by SOA

Based on What We've Learned from Customers

WebSphere Business Modeler 6.1

Enhanced!

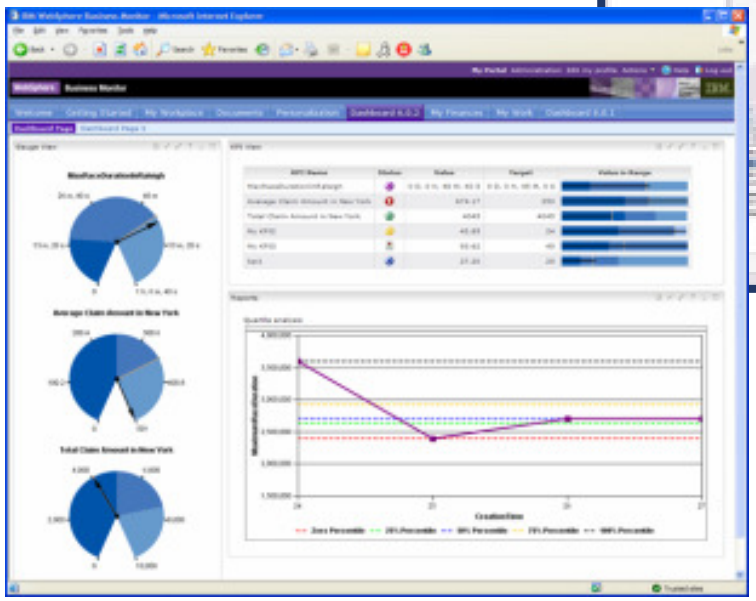
- Enhanced BPM Simulation and Analysis
- Human task visualization via IBM Lotus Forms integration
- Precise modeling of the vital aspects of your business processes
- Deploy collaborative modeling with the Publishing Server



WebSphere Business Monitor 6.1

Enhanced!

- Enhanced BAM capabilities
- Monitor process performance for continuous business improvement
- New and enhanced dashboards that can be customized



WebSphere Business Services Fabric 6.1

Enhanced!

- Improved consumability and ease of use – enhanced business policy lifecycle management, simplified administration, and better error checking capabilities
- Greater concurrency with IBM's BPM Enabled by SOA portfolio
- Additional platform support for wider deployment options
- Enhanced Industry Content Packs with improved tooling support

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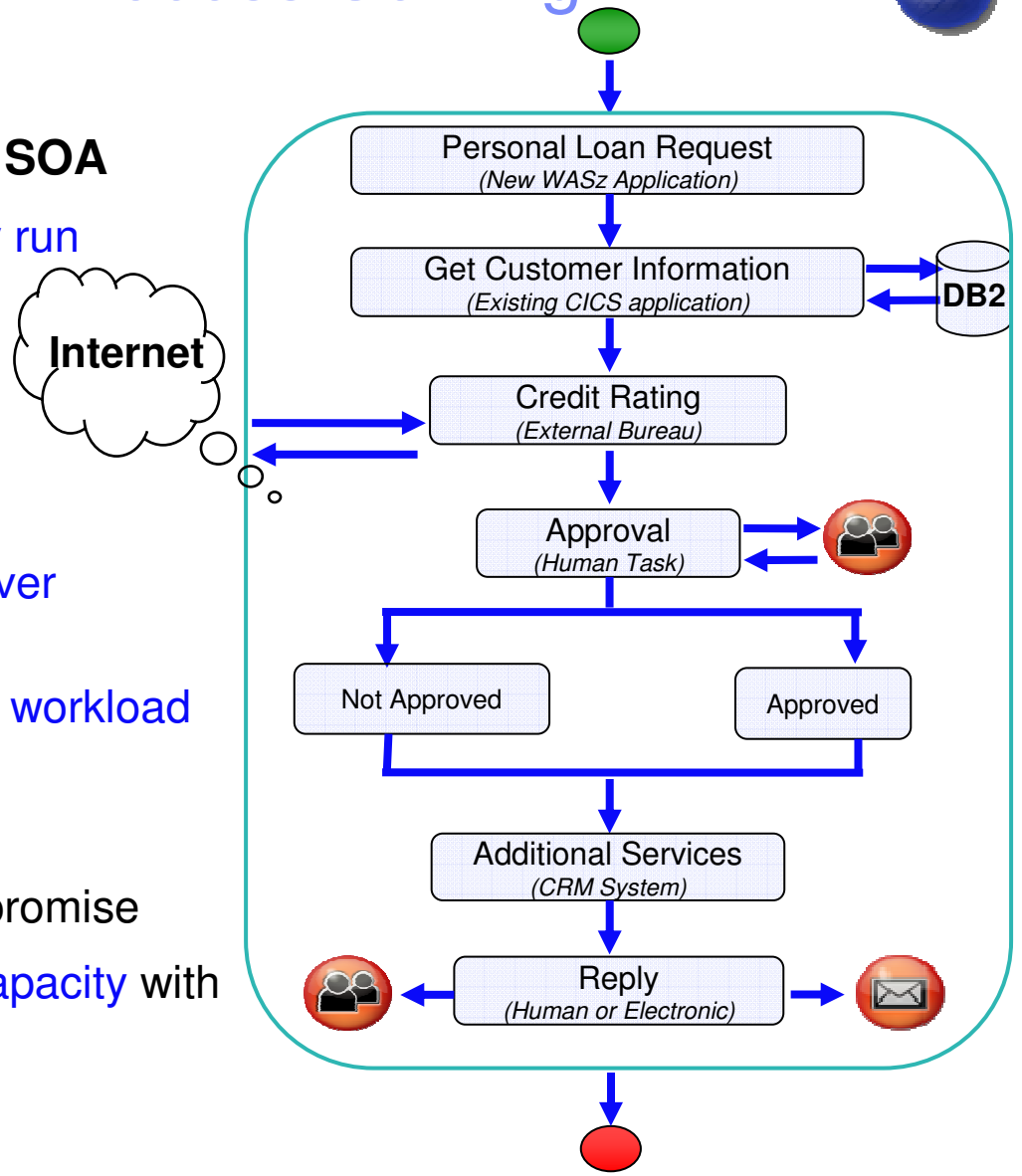
When to Use System z for Process Serving

System z – The choreographer for an SOA

- Efficiency: Control processes where they run
- Integration: Improve the flow of processes
- Automation: Remove the human enter keys
- Reliability: Guaranteed connections deliver automated processes
- Workload Management: Integration with workload manager / intelligence resource director
- Security: built into all system layers
- Availability: z(ero downtime)/OS brand promise
- Performance: Full utilization of system capacity with same class of service



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Customer Example: Telecom

Business Challenge

- **Eliminate overlapping redundant systems and data**
- **Need for flexible systems to meet business needs**
- **Improve operations and customer service**

Solution

- **The WSRR and WebSphere Process Server were deployed to improve relationship management and sales systems**

Benefits

- **Convenient way to catalog their services**
- **Notifications to service supervisors, owners and subscribers**
- **Governance of the lifecycle of services**

Software

WebSphere Service Registry and Repository

WebSphere Process Server

ITCAM for SOA

WebSphere Adapters

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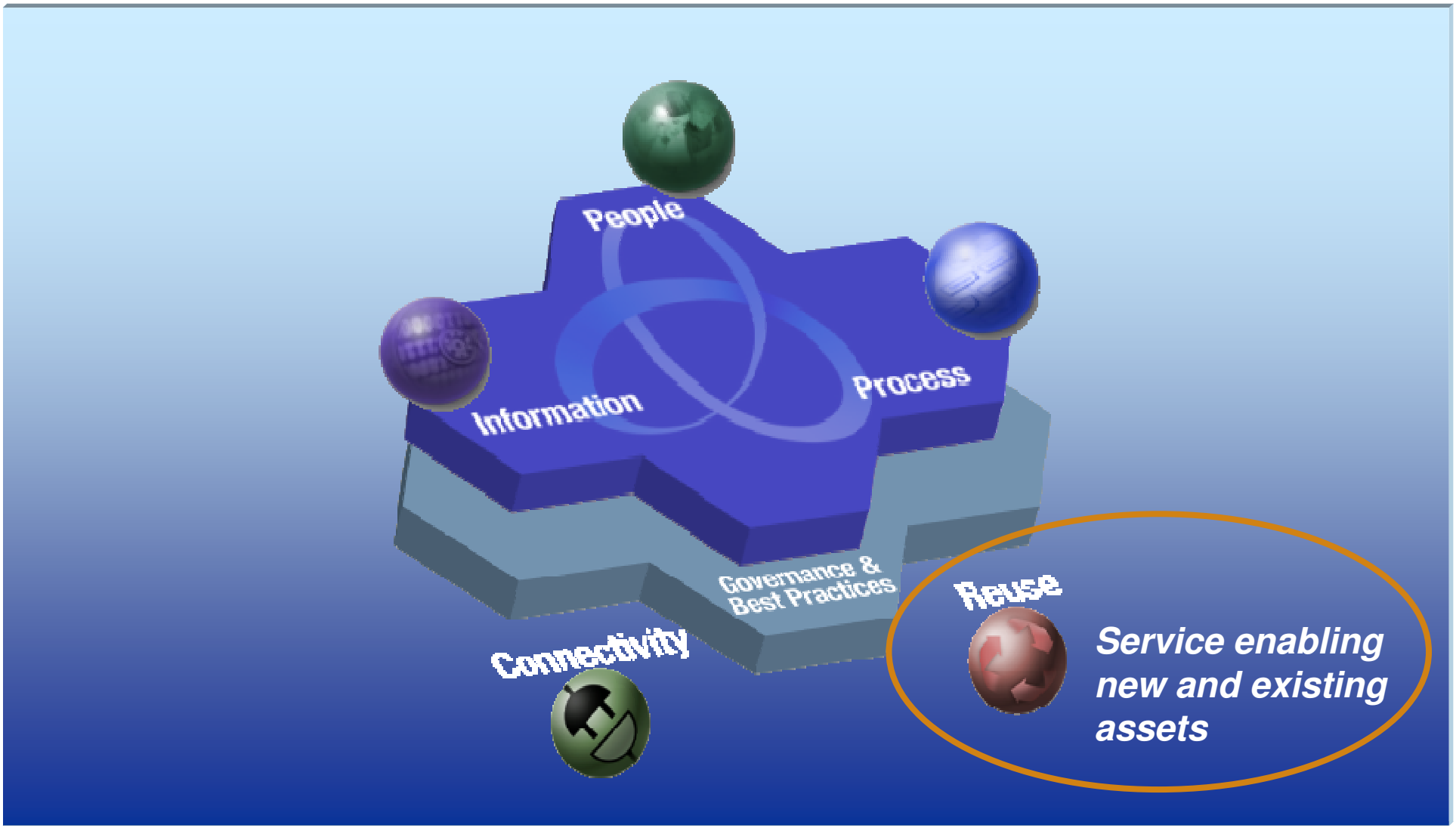
SOA Entry Points: Reuse



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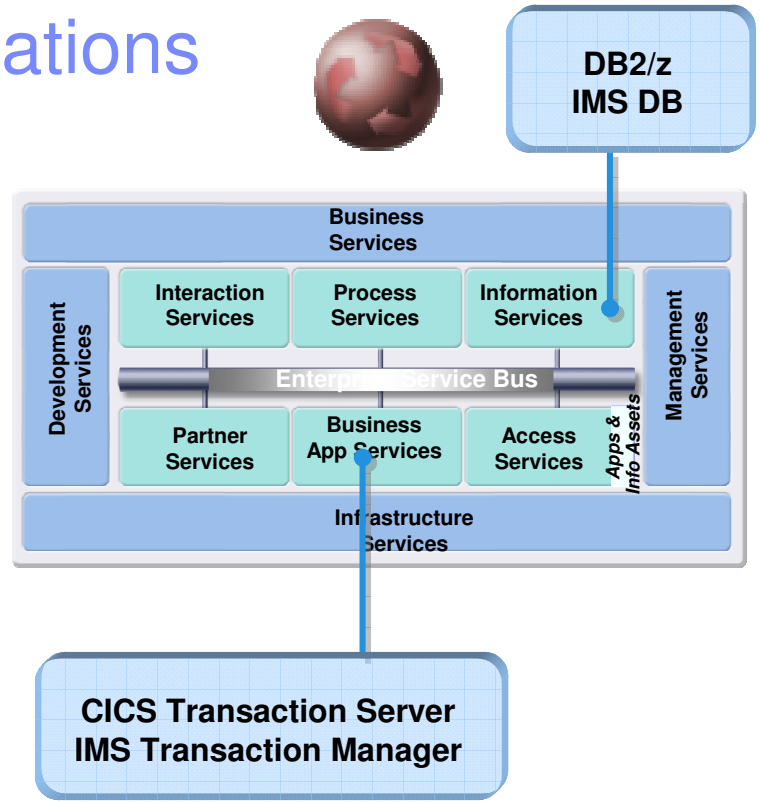
Service enabling existing applications



Enhanced!

CICS Transaction Server V3.2

Application Reuse

- Create components from existing applications which are more flexible & configurable for use in new applications

Application Connectivity

- Extend existing applications beyond their original designs to support integrated business processes via standard APIs and protocols

Service Management

- Management of large runtime configurations via modern user interfaces

Enhanced!

IMS 9 +

- High performance access
- Universal information exchange
- Better business integration
- Ultra-high scalable/available data
- Lower cost development/deployment/management

IMS 10 – coming soon

- Extended B2B Data Interchange
- Expanded client and application interoperation
- Simplified installation and management

Enhanced!

DB2 9 optimized for SOA

- Business insight and flexibility with pureXML
- WebSphere integration for trusted applications and web serving
- Security & SOA governance capabilities

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SOA Reuse: Enhancing Our Portfolio

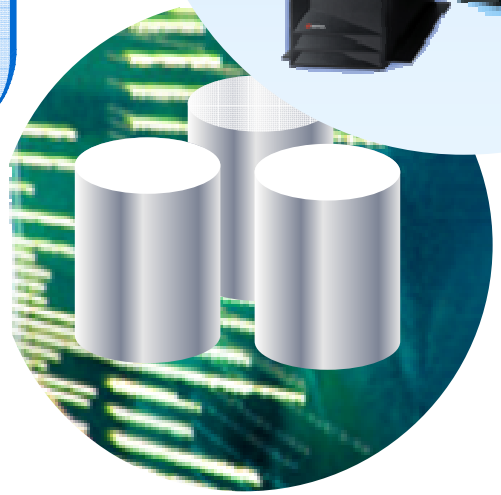
Creating and reusing proven, high-value assets

Enhanced!

WebSphere Extended Deployment 6.1.0.1

Virtualize SOA applications that optimize operations and improve service lifecycle management

- Delivers QoS and management capabilities to Session Initiation Protocol (SIP) applications
- Complete lifecycle management for WAS Community Edition
- Improved support for older versions of WAS



Enhanced!

WAS 6.1 Innovations

Feature packs: free & easy to consume, these optionally installable product components enable new features on top of WAS

- Feature Pack for Web Services
- Feature Pack for EJB 3
- Feature Pack for Web 2.0

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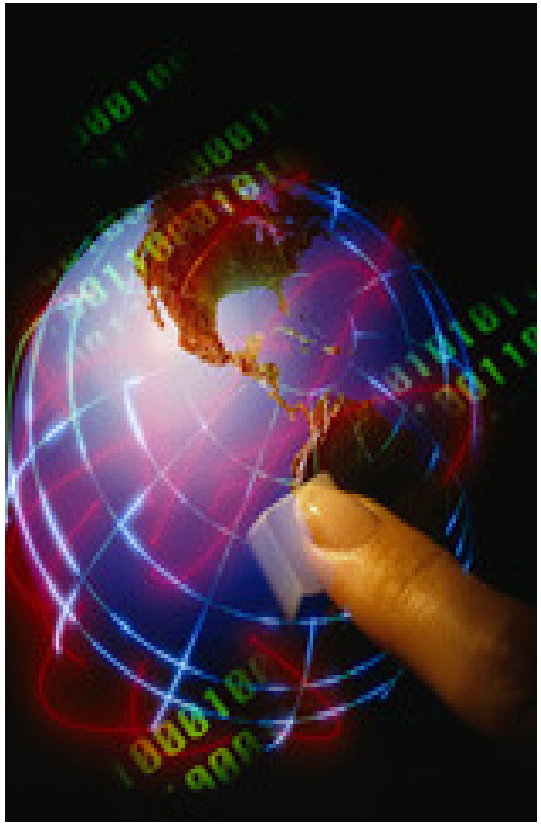
When to Deploy New Services on System z

Combine the availability, scalability and security of System z with the industry leading Application Server for:

- Integration with existing mainframe assets
- High performance access to customer information
- Server consolidation and simplification of spiraling server assets
- Zero downtime for services that drive the business
- Exploitation of Java/J2EE programming skills
- Uninterrupted support of unpredictable workloads
- Lowest TCO for the lifetime of the application environment



Hardware, operating system, and middleware working together to bring true 99.999% application availability to your business critical services.

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Case Study: Easy linkage between time-proven core business processes and new business models

University of Florida

- **Business Challenge:** Develop administrative framework for packaged student health program

- **Solution:** Administrative support for health education mandated by university to reduce student problem behavior

- **Results:** Lower total cost of ownership than any other implementation on campus; subsecond responses on Web; ability to complete implementation in a fraction of the time required by other platforms; seamless integration with existing, locally written CICS Web-based UF Student Records System

- **Implementation Details:** CICS Transaction Server for z/OS, Version 3, DB2 for z/OS, Version 7.1, Tivoli OMEGAMON XE for z/OS, System z9 Business Class, System Storage DS8100

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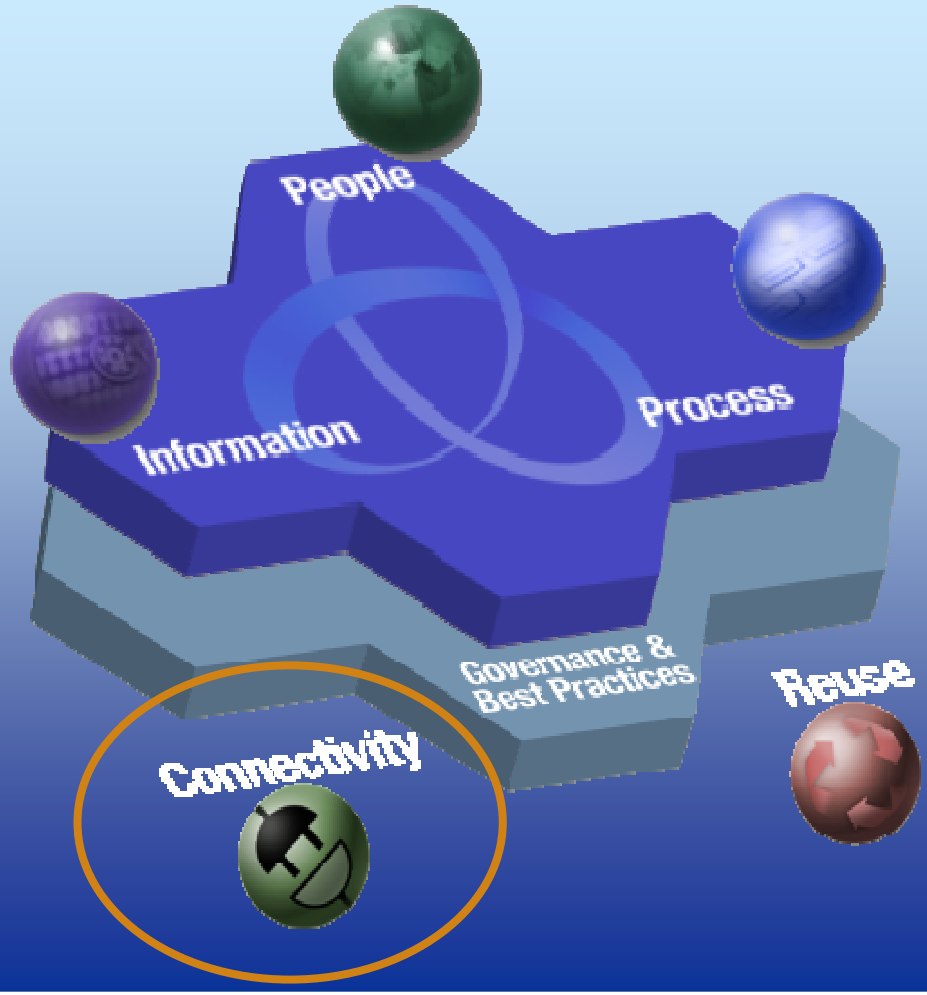
SOA Entry Points: Connectivity



Service enabling new and existing assets

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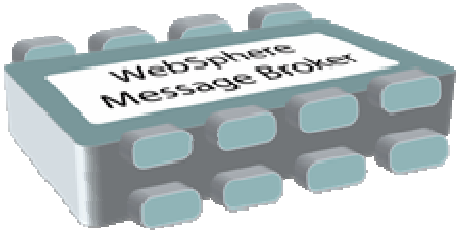
SOA Connectivity: Enhancing Our Portfolio

Federated ESB – integrated framework to meet your needs

Optimized with WebSphere Application server for an integrated SOA platform

ESB offerings from IBM WebSphere

Purpose-built hardware for simplified deployment and hardened security



Built for universal connectivity and transformation in heterogeneous IT environments

Enhanced!

WebSphere Enterprise Service Bus 6.1

- Additional platform support for better reuse
- Easy interactions with JMS and HTTP applications
- SOA standards for service composition, mediation and hosting
- Enhanced ease of use
- Built on top of WebSphere Application Server

Enhanced!

WebSphere DataPower Integration Appliance XI50 3.6.1

- Enhanced standards support
- Improved interoperability and connectivity
- Easier customisation and configuration
- Enhanced integration to leverage existing infrastructure
- Flexible policy framework for centralized SOA governance
- Registry & repository support

Enhanced!

WebSphere Message Broker 6.1

- Improved developer experience
- Faster processing and validation
- Integrated Adapter and transformation enhancements
- Enhanced administration and management
- Platform independent based ESB for heterogeneous environments

By 2009, Analysts state multiple ESBs will be required to grow your SOA!

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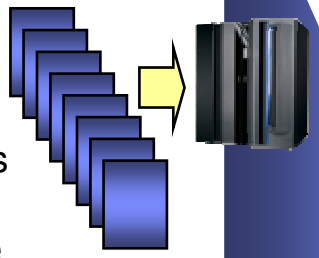
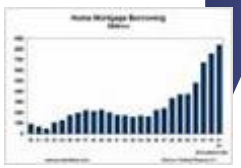
When to use System z as the Hub for your ESB

ESB requirements

- **Integration:**
  - Complex transactions and roll back
  - Monitor end-to-end transactions in complex configurations
  - Allocate resources according to business goals
  - Provide single point of control across the enterprise
  - Meet security and regulatory requirements
- **Business criticality:**
  - QoS is a high-priority factor for shared services
  - Need to handle unpredictable workloads
  - Business services are reused by an increasing number of critical applications
  - Security is key
- **Performance:**
  - Key applications and data reside on System z
- **Growth:**
  - Quickly add new services and capacity with no disruption to apps or users





System z benefits for ESBs

- **Virtualization**
  - High resource utilization
  - Massive consolidation and simplification
  - Enterprise-wide workload management
  - Workload isolation and security
  - Leverage existing infrastructure and skills
- **Running business critical workloads**
  - 99.999% availability
  - Recovery of whole systems across vast distances
  - Automated recovery from failures
  - Dynamic workload balancing
  - Simplification of security management
- **Performance**
  - ESB performance improvements when co-locating with z/OS data.
  - Customer PoC example - Average CPU time **reduced by over 77%**
- **Efficient growth**
  - Pay for what you use, add capacity and applications quickly and automatically, avoid proportionate people costs growth

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Customer Example: Major University

Business Challenge

- Eliminate redundant information entry points
- Preserve all existing applications and databases
- Reduce spending on the IT infrastructure
- Improve responsiveness to customers (students)

Solution

- WebSphere Enterprise Service Bus (WESB) deployed as the integration backbone for the entire campus

Benefits

- One customer data entry process now feeds all departmental and college student database
- A data change made by one administrator is reflected immediately to all other instances of this student
- Existing applications and data were preserved – no re-write or purchase of new ERP systems was required

Software

WebSphere Enterprise Service Bus

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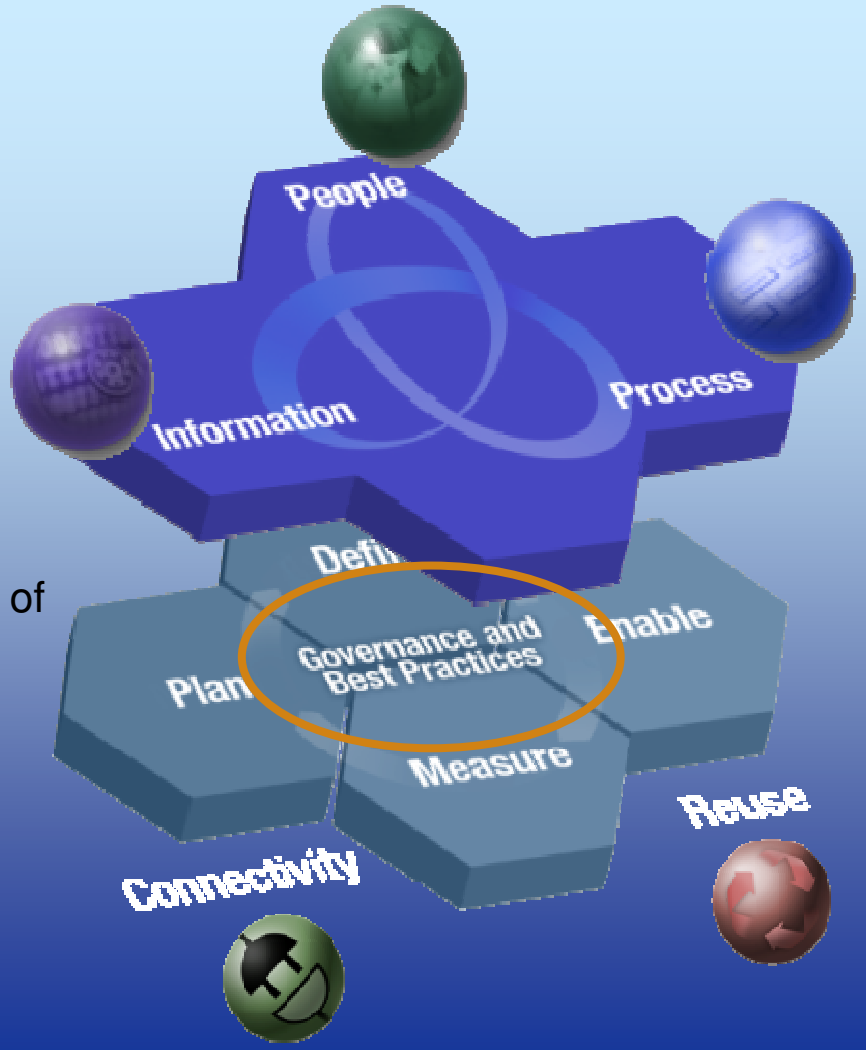
SOA Entry Points: Governance and Best Practices

What is SOA governance?

- Decision making rights, and measurements and controls across the lifecycle of services

Value of SOA Governance

- Mitigate business risk and maintain control of services and processes
- Improve team effectiveness



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SOA Governance: Enhancing our Portfolio

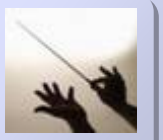
WSRR Supports a number of current environments used in an SOA production framework

WebSphere Service Registry and Repository

Publish

Find

Enrich


Manage

Govern

FileNet

WebSphere ESB

WebSphere Business Modeller

WebSphere Business Services Fabric

WebSphere Message Broker

DataPower

WebSphere Process Server

WebSphere Integration Developer

CICS

ITCAM for SOA

Generic Client (.Net or other)

UDDI Registries

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Customer Example: Manufacturing

Business Challenge

- Eliminate redundant application development
- Reduce spending on the IT infrastructure
- Improve responsiveness to business needs

Solution

- WSRR and WebSphere Message Broker were deployed to increase services reuse and optimize service interactions

Benefits

- Provide visibility and organize services
- Track and monitor the lifecycle of the service from development to deployment
- Improve time to market by enabling dynamic service interactions

Software

WebSphere Service Registry and Repository

WebSphere Message Broker

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Extend SOA Reach with Web 2.0 to Unlock Content Simply

Helps Serve New Markets with Specific Needs

Simple to use

Simple to access

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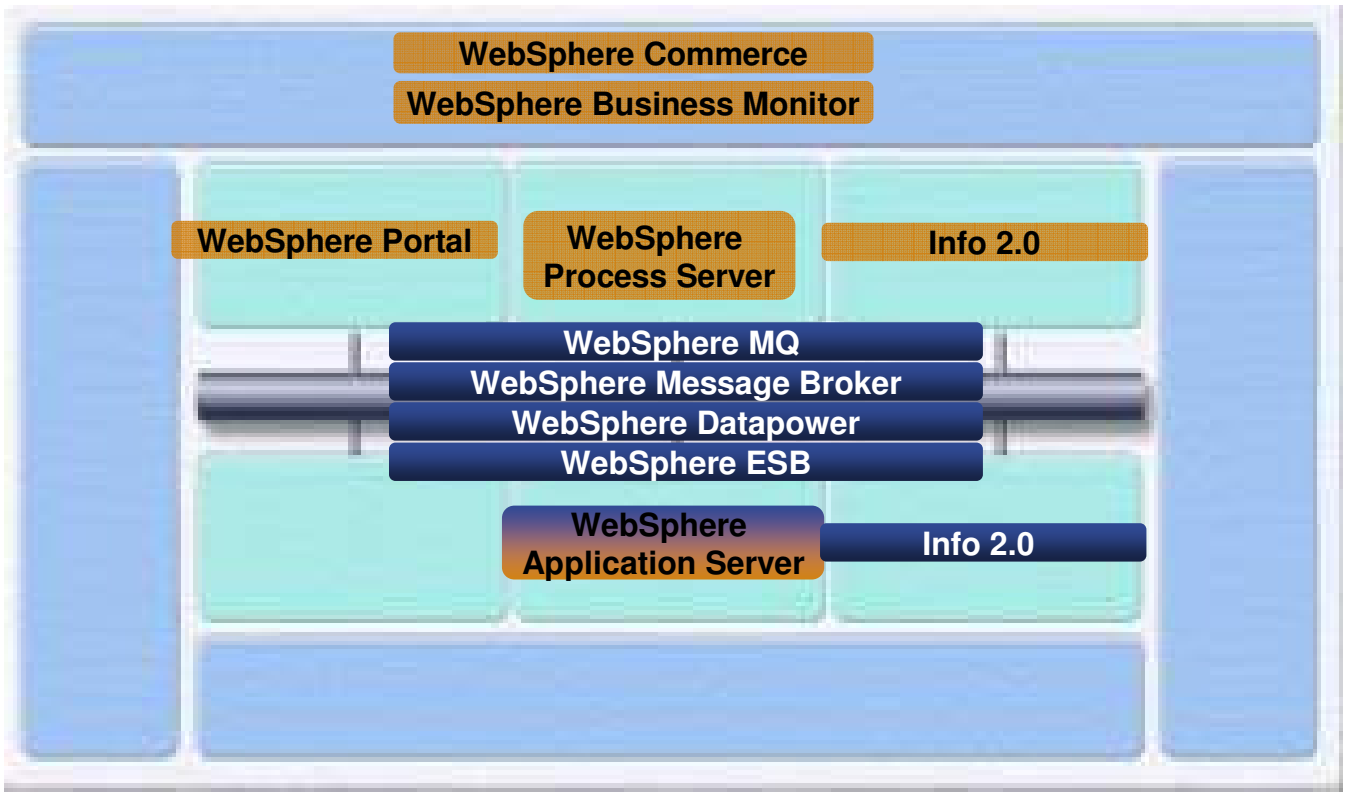
Enhancing the SOA Portfolio to Address Web 2.0

Use the same products for either approach



New and Enhanced!

Simple to Use

Simple to Access

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Simpler than ever to use SOA Entry Points

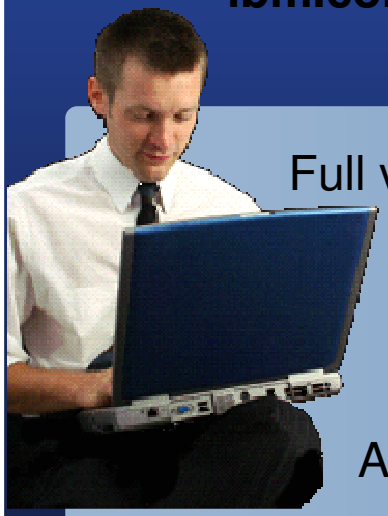
Proven configurations, best practices, and step by step guides

SOA Sandbox

New!

Examples and best practices provide low risk, practical, hands-on path to understanding

ibm.com/soa



Full version software trials

'Try online' hosted environments

Tutorials

Architectural Guidance

SOA Configurations

New and Enhanced!

Solutions for common SOA use cases helps reduce deployment time

Leveraging Legacy and Packaged Applications
- *SOA Configurations for CICS and IMS*

SOA Security and Management

Configuration guides

Solution Guides

Demos

Tested platforms

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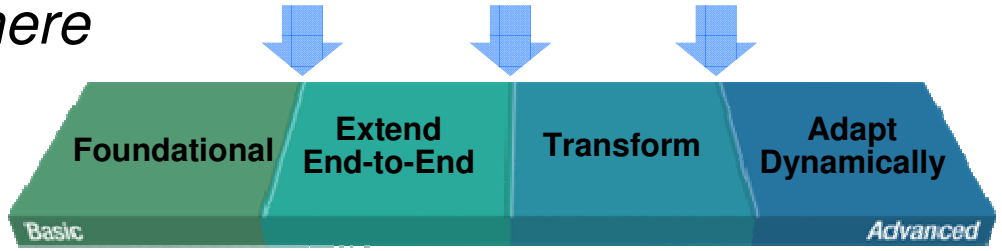
Helping Customers Access Their SOA Health

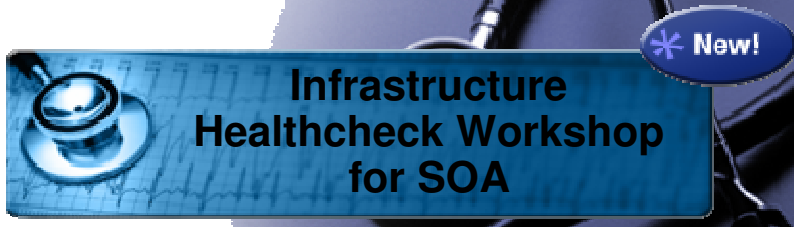
Are you IT fit enough to handle your SOA needs?

Whether you are here or here or here



Treatment Areas

- Application Reuse
- Service Use
- Service Security



Treatment Areas

Infrastructure Flexibility
Service Management
Middleware Support

Critical for maximizing SOA success and value on the path toward becoming a Globally Integrated Enterprise

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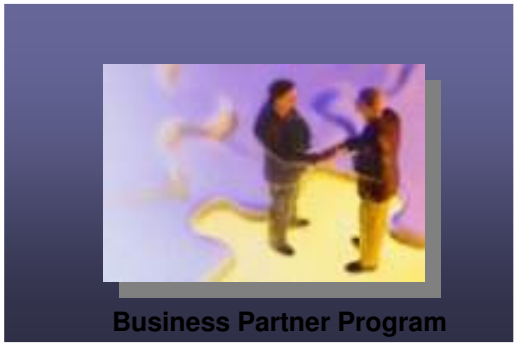
Continued focus on skills for System z Practitioners



- New SOA advanced practitioner certification
- New ISV support for IBM SOA Industry Roadmap
- Enhanced SOA Business Catalog
- 218+ new and enhanced SOA product courses

- 82 additional universities delivering IBM SOA, BPM & Service Science curriculums by year end
- 11 new courseware offerings for SOA
- Launched the Student Opportunity System for Service Science

- **Challenge:** Prepare engineering and computer science students for jobs with System z business systems
- **Solution**
  - Introduce SOA curriculum into courses
  - Developing a specific SOA for System z curriculum
- **Value:** Students exposed to SOA and gained experience applicable to future employment

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IBM, System z and Smart SOA

- IBM is the industry leader in investments for SOA and for System z as the hub for a Smart SOA
- All business services are not equal – mission critical services should be deployed to, and managed by System z
- Enhancements to the WebSphere portfolio enable platform choice based on the customer's business drivers
- IBM is making it easier to deploy SOA to System z with SOA Sandboxes, SOA Configurations and SOA Healthchecks
- IBM continues to add skills to the Smart SOA z community

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